FORM PTO-1390 (Modified) (REV 10-95) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371	**(K) 53 885**

TRANSMITTAL LETTER TO THE UNITED STATES

DESIGNATED/ELECTED OFFICE (DO/EO/US)

CONCERNING A FILING UNDER 35 U.S.C. 371

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.5)

09/423179

INTERNATIONAL APPLICATION NO. **PCT/EP98/02529**	INTERNATIONAL FILING DATE **29/04/98**	PRIORITY DATE CLAIMED **02/05/97**

TITLE OF INVENTION

Device for Optimizing Fabrics based on Measrued Thread Data and Optimization Method

APPLICANT(S) FOR DO/EO/US

Dieter ZWEIGLE

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.

2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.

3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).

4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.

5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))

    a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).

    b. ☒ has been transmitted by the International Bureau.

    c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).

6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).

7. ☒ A copy of the International Search Report (PCT/ISA/210).

8. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))

    a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).

    b. ☐ have been transmitted by the International Bureau.

    c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.

    d. ☐ have not been made and will not be made.

9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).

10. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).

11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).

12. ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 18 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.

14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.

15. ☒ A **FIRST** preliminary amendment.

    A **SECOND** or **SUBSEQUENT** preliminary amendment.

16. ☐ A substitute specification.

17. ☐ A change of power of attorney and/or address letter.

18. ☒ Certificate of Mailing by Express Mail

19. ☒ Other items or information:

> **General Authorization to Charge Fees**
> **Small Entityt Declaration**

PCTUS1/REV03

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
09/423179	PCT/EP98/02529	(K) 53 885

20.   The following fees are submitted:.

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

CALCULATIONS   PTO USE ONLY

☒ Search Report has been prepared by the EPO or JPO **$840.00**

☐ International preliminary examination fee paid to USPTO (37 CFR 1.482)
. . . .   **$670.00**

☐ No international preliminary examination fee paid to USPTO (37 CFR 1.482)
but international search fee paid to USPTO (37 CFR 1.445(a)(2)) **$760.00**

☐ Neither international preliminary examination fee (37 CFR 1.482) nor
international search fee (37 CFR 1.445(a)(2) paid to USPTO **$970.00**

☐ International preliminary examination fee paid to USPTO (37 CFR 1.482)
and all claims satisfied provisions of PCT Article 33(2)-(4) **$96.00**

ENTER APPROPRIATE BASIC FEE AMOUNT =

$840.00

Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20   ☐ 30
months from the earliest claimed priority date (37 CFR 1.492 (e)).

$0.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	17 - 20 =	0	x $18.00	$0.00	
Independent claims	1 - 3 =	0	x $78.00	$0.00	
Multiple Dependent Claims **(check if applicable)**.			☐	$0.00	

TOTAL OF ABOVE CALCULATIONS   =

$840.00

Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement
must also be filed (Note 37 CFR 1.9, 1.27, 1.28) **(check if applicable)**.   ☒

$420.00

SUBTOTAL   =

$420.00

Processing fee of **$130.00** for furnishing the English translation later than ☐ 20   ☐ 30
months from the earliest claimed priority date (37 CFR 1.492 (f)).   +

$0.00

TOTAL NATIONAL FEE   =

$420.00

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) **(check if applicable)**.   ☐

$0.00

TOTAL FEES ENCLOSED   =

$420.00

Amount to be: refunded	$
charged	$

☒   A check in the amount of **$420.00**   to cover the above fees is enclosed.

☐   Please charge my Deposit Account No.   in the amount of   to cover the above fees.
     A duplicate copy of this sheet is enclosed.

☒   The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment
     to Deposit Account No.   **11-0665**   A duplicate copy of this sheet is enclosed.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR
1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

M. Robert Kestenbaum
11011 Bermuda Dunes NE
Albuquerque, NM USA 87111
Phone (505) 323-0771
Fax (505) 323-0865

SIGNATURE

M. Robert Kestenbaum

NAME

20, 430

REGISTRATION NUMBER

November 2, 1999

DATE

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) AND 1.27 (c)) - SMALL BUSINESS CONCERN	Docket No. (K)53 885

Serial No. PCT/EP98/02529	Filing Date April 29, 1998	Patent No.	Issue Date

Applicant/
Patentee: Dieter Zweigle

Invention: Device for Optimizing Fabrics Based on Measured Thread Data and Optimization Method

I hereby declare that I am:

☐ the owner of the small business concern identified below:

☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: Ingenieurburo Dieter Zweigle

ADDRESS OF CONCERN: Ferdinand-Lassalle-Strasse 54, D-72770 Reutlingen, Germany

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above identified invention described in:

☒ the specification filed herewith with title as listed above.

☐ the application identified above.

☐ the patent identified above.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern or organization exists.
- ☐ each such person, concern or organization is listed below.

FULL NAME _____

ADDRESS _____

| ☐ Individual | ☐ Small Business Concern | ☐ Nonprofit Organization |

FULL NAME _____

ADDRESS _____

| ☐ Individual | ☐ Small Business Concern | ☐ Nonprofit Organization |

FULL NAME _____

ADDRESS _____

| ☐ Individual | ☐ Small Business Concern | ☐ Nonprofit Organization |

FULL NAME _____

ADDRESS _____

| ☐ Individual | ☐ Small Business Concern | ☐ Nonprofit Organization |

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

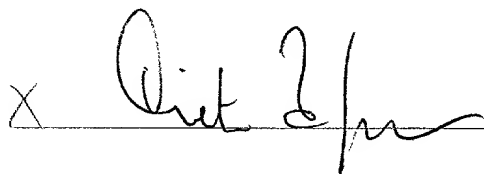NAME OF PERSON SIGNING: Dieter Zweigle

TITLE OF PERSON SIGNING

OTHER THAN OWNER: Managing Director

ADDRESS OF PERSON SIGNING: Ferdinand-Lassalle-Strasse 54
D-72770 Reutlingen
Germany

SIGNATURE: X _____   DATE: October 25, 1999

Zweigle
(K) 53 885

420 Rec'd PCT/PTO EP98/02529 0 2 NOV 1999

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: International Application   PCT/EP98/02529
     Filed   April 29, 1998
     Applicant   Dieter ZWEIGLE
     Attorney Docket   (K) 53 885

Box PCT
Assistant Commissioner for Patents
Washington, DC 20231

Preliminary Amendment

Dear Sir or Madam:

Please amend the above-identified application as follows:

In the <u>Claims</u>:

Claim 4, line 1, after "according to" cancel "one of Claims 1 to 3" and insert --

Claim 1 --.

Claim 5, line 1, after "according to" cancel "one of Claims 1 to 4" and insert --

Claim 1 --.

Claim 6, line 1, after "according to" cancel "one of Claims 1 to 5" and insert --

Claim 1 --.

Claim 7, line 1, after "according to" cancel "one of Claims 1 to 6" and insert --

Claim 1 --.

Claim 10, line 1, after "according to" cancel "one of Claims 1 to 9" and insert --

Claim 1 --.

Claim 11, line 1, after "according to" cancel "one of Claims 1 to 10" and insert --

Claim 1 --.

Claim 12, line 1, after "according to" cancel "one of Claims 1 to 11" and insert --

Claim 1 --.

1

Claim 13, line 1, after "according to" cancel "one of Claims 1 to 12" and insert --

Claim 1 --.

Claim 14, line 1, after "according to" cancel "one of Claims 1 to 13" and insert --

Claim 1 --.

Claim 15, line 1, after "according to" cancel "one of Claims 1 to 14" and insert --

Claim 1 --.

Claim 16, lines 1 and 2, after "according to" cancel "one of the preceding claims"
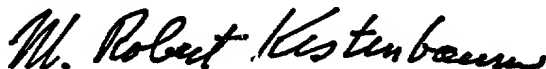
and insert -- Claim 1 --.

Claim 17, lines 2 and 3, after "according to" cancel "one of the preceding claims"

and insert -- Claim 1 --.

Remarks

This Preliminary Amendment removes multiple dependencies in the claims.

Please calculate the Filing Fee according to this Preliminary Amendment.

Respectfully submitted,

M. Robert Kestenbaum
Reg. No. 20,430
11011 Bermuda Dunes NE
Albuquerque, New Mexico 87111
Phone (505) 323-0771
Fax (505) 323-0865

I/PRTS

Date: 22 April 1998
Ref.: 53 728

Applicant: Dieter Zweigle, Ferdinand-Lassalle-Str. 54,
5   72770 Reutlingen

APPARATUS FOR OPTIMIZING YARNS ON THE BASIS OF MEASURED
YARN DATA AND METHOD OF OPTIMIZATION

10   The present invention relates to an apparatus for
optimizing yarns and woven fabrics on the basis of
measured yarn data and to the associated method of
optimization.

15   The development of new woven fabrics is usually carried
out with CAD systems. These known CAD systems allow
new fabrics to be developed by changing a large number
of parameters. However, in CAD systems the computation
is always based on "ideal" yarns, i.e. yarns of which
20   the diameter, fineness and tear strength is constant
over the entire yarn.

In the case of actual yarns, however, the yarn
diameters and other yarn properties are not constant
25   over the length of the yarn, as they are in the case of
"ideal yarn". For instance, actual yarns have nips,
slubs, neps etc., which of course have an effect on the
appearance of the later "actual fabric", but are not
taken into account in the development of the fabric on
30   the CAD system. This has the effect that the actual
fabric obtained often does not meet the expectations of
the designer.

The object of the invention is to improve the systems
35   for developing new fabrics and/or to optimize machine
settings or processes in yarn manufacture.

This object is achieved by providing an apparatus which makes it possible to take into account during the design of the fabric the actual values of the respective yarn and which at the same time makes it

5   possible to adapt and/or change the structure or any desired crossover point, taking into account the visual appearance of each yarn.

With the apparatus according to the invention, it is

10   possible by changes to each and every crossover visually to emphasize or suppress nips, slubs or neps. In some fabrics, it is precisely the visual effects achieved by irregular yarns that are desired and, by being able to define the structure freely, it is

15   possible in the case of desired irregularities to bring them out visually by the type of respective structure.

In the apparatus according to the invention, the yarn diameter of the respective individual yarn is measured

20   optoelectronically. On the basis of the defined type of desired structure, a three-dimensional representation of the actual yarn is computed, taking into account the individual measured values of the yarns, and is visually displayed. Each and every

25   crossover can be changed - preferably using a schematized representation of the fabric on a screen and input with the keyboard or a mouse. The actual fabric can in turn be visually displayed and changed as much as required until the desired design is obtained.

30

The three-dimensional representation of the actual fabric also means that considerable amounts of yarn, machines, power and working time are saved, since it is no longer necessary to switch on the loom to see how

35   the actual fabric looks, perhaps then to declare it a reject.

The combination of the structure input device and free selectability of the weaving density also contributes to reducing the number of rejects.

5 Furthermore, in a particular embodiment it is possible in the apparatus according to the invention also to measure the colours along a yarn and to transfer them into the evaluation device, so that in addition to the actual yarn diameters the actual colours can also be
10 taken into account in the computation of the actual fabric.

The invention is now explained in more detail with reference to an exemplary embodiment:
15

Figure 1 shows the construction of the apparatus according to the invention for optimizing actual fabrics on the basis of measured yarn data.

20 The apparatus 11 comprises a measuring device 12, which serves for measuring the yarn diameter, a structure input device 13, in which the respective desired structure can be freely defined and also changed, a control and evaluation device 14 and a display device
25 16, in particular a screen.

The measuring of the yarn diameter in the measuring device 12 takes place in the measuring head, which operates on the optical principle of absolute
30 measurement. The advantage of absolute optoelectronic measurement is that the measurement is insensitive to light source aging, extraneous light, soiling, temperature and humidity and is not dependent on the colour, conductivity and lustre of the yarn to be
35 measured. Such measurement also does not require constant recalibration and input of parameters.

For the measuring of natural yarns, it is generally adequate to use a measuring head with the accuracy of

0.1 mm.   However, depending on
the type of yarn to be measured, for example in the
case of yarns of man-made fibres or else in individual
cases of yarns of natural fibres, measuring heads

5   with the accuracy of at least   0.01 mm
are used with preference.

In addition to the measuring head, the measuring device
12 comprises a yarn feed and electronics.

10

Such measuring heads are known from the prior art and
are sold, for example, by BARCO/Belgium.

For the optimizing apparatus according to the invention

15   it is necessary that the accuracy of the yarn diameter
measurement is at least 1/100 mm.   The measuring of the
diameter of the yarn should take place at least every
2 mm.

20   The measured values determined in the measuring device
12 are then transferred into the evaluation device 14
via a parallel interface 19.   The evaluation device 14
at the same time controls the measuring device 12 by a
serial interface 21.

25

Also connected to the device 14 is the device 13 for
inputting and changing freely definable structures.   In
the structure input device 13, any possible type of
crossover of the groups of threads can be defined.

30   Preferably, these are flat fabric structures.   By
accessing already defined structures, this device makes
it possible to define individually any desired
structure and to change already existing structures at
any number of crossovers.   The input and changing of

35   the respective structure most easily takes place using
a PC, by marking the respective crossover points
displayed on a screen, for example with a mouse or
using the keyboard.

The structure input device 13 is preferably integrated together with the control and evaluation device 14 in a computer.

5   Once the measuring of the respective yarn has taken place in the device 12 and a structure has been defined in the device 13, the computation of the three-dimensional representation of the actual fabric takes place in the device 14 on the basis of the freely

10   defined structure and the yarn diameters measured. The representation takes place on a screen 16 connected to the evaluation device 14. Optionally, an output device 17 may be connected to the evaluation device 14.

15   The measured data are visually displayed along space curves, variation in brightness (shadow effect) and colour being taken into account and a coverage calculation of the threads being carried out. In the visual display, light settings, camera position and

20   focal length can be changed.

The representation on the screen preferably takes place by parallel projection of the object by means of a 3D graphics library. However, other projections are also

25   possible.

Of course, for the computation of the actual fabric, the parameters of the loom (fabric size) must also be input and assigned to warp and weft threads, in order

30   that the computed actual fabric really corresponds to the result woven later.

On the basis of this three-dimensional representation of the actual fabric, individual structures can then be

35   changed in order to produce an individual fabric in which specific nips, slubs and/or neps due to the individual type of crossover of the threads in the fabric structure are emphasized more or suppressed. For documentation purposes, the three-dimensional

representation of the optimized actual fabric can then be output on a printer or copier 17, preferably in colour.

5   If desired, the measured values can also be statistically evaluated. The statistical evaluation makes it possible to make statements about the quality of the yarns.

10   The statistical functions should comprise not only a statistical evaluation of an individual measured yarn which is possible at any time but also statistical evaluation taken over entire totals of series of measurements of individual yarns and/or freely
15   definable and selectable individual measurements of yarns and should make it possible to obtain mean values, standard deviations, variances and other statistical evaluations of the measured individual yarns and/or groups of yarns. A two-dimensional and/or
20   three-dimensional graphic representation of the respectively desired statistical functions is also envisaged.

In a preferred embodiment of the apparatus according to
25   the invention, the computation and/or visual display of the fabric partially and/or completely with ideal yarns is also envisaged.

The graphic representation of the three-dimensional
30   actual fabric may also take place in certain selectable colours, it being possible for each yarn to be assigned a colour.

The colour selection preferably takes place for each
35   desired actual and/or ideal yarn by input of the respectively desired red-green-blue values, so that freely definable and selectable colours are available.

Of course, it is possible to store measured parameters, measured yarn diameters, statistical evaluations, computed actual fabrics, freely defined structures, parameters of the loom etc. in a data bank and call

5   them up again as and when needed.

It is of course possible in the case of the apparatus according to the invention to import and export outside files.

10

The apparatus according to the invention also makes it possible - for example for the identification of periodic errors, such as the moirée effect - to display on the screen and also print out the measured yarn in

15   the form of the standard yarn chart in the standardized dimensions.

If the resolution of the screen 16 and/or of the output device 17 is not adequate, a segmentation of the

20   standard yarn chart into, for example, three segments is envisaged, which even in the case of a resolution limited by the hardware allows the standard yarn chart to be represented in segments at the required high resolution for identification of the periodic errors.

25

It is optionally likewise possible on the basis of the measured yarn data to have an actual weft-knitted fabric simulated, for example single-jersey, plain, plain rib, interlock, piqué etc. or else a warp-knitted

30   fabric.

Of course, the knitted fabrics can also be input and changed in the structure input device (13).

Applicant: Dieter Zweigle, Ferdinand-Lassalle-Str. 54,
5   72770 Reutlingen

PATENT CLAIMS

1. Apparatus (11) for optimizing actual woven fabrics
10 on the basis of measured yarn data,
    having at least one measuring device (12) for measuring
    the yarn diameter,
    having a structure input device (13) for inputting and
    changing freely definable structures,
15 having a device (14) for controlling the measuring
    device (12) and for evaluation
    and a display device (16),
    the actual fabric being computed and represented on the
    basis of the measured yarn diameters and the freely
20 definable structure
    and the fact that the defined structure of the fabric
    can be changed making it possible to adapt and optimize
    the actual fabric to the measured individual yarn
    diameters.

25

2. Apparatus according to Claim 1, characterized in
    that the measuring device (12) is an optoelectronic
    device.

30 3. Apparatus according to Claim 2, characterized in
    that the optoelectronic device (12) is a measuring
    device carrying out absolute measurements, in
    particular a measuring device operating in the infrared
    range.

35

4.   Apparatus according to one of Claims 1 to 3, characterized in that the accuracy of the measuring device (12) is at least 1/100 mm.

5.   Apparatus according to one of Claims 1 to 4, characterized in that the defined structure is graphically represented.

6.   Apparatus according to one of Claims 1 to 5, characterized in that the definition of each structure takes place by means of a two-dimensional matrix.

7.   Apparatus according to one of Claims 1 to 6, characterized in that the representation of the computed actual fabric takes place on a screen (16).

8.   Apparatus according to Claim 7, characterized in that the representation on the screen (16) takes place by parallel projection of the object by means of a 3D graphics library.

9.   Apparatus according to one of Claims 1 to 8, characterized in that the output takes place on a printer (17), in particular a colour printer, or a colour copier.

10.   Apparatus according to one of Claims 1 to 9, characterized in that controlling the measuring device (12) takes place by means of the evaluation and control device (14).

11.   Apparatus according to one of Claims 1 to 10, characterized in that the apparatus comprises a plurality of measuring heads or measuring devices (12).

12.   Apparatus according to one of Claims 1 to 11, characterized in that the fabric density can be set.

13. Apparatus according to one of Claims 1 to 12, characterized in that the computation of knitted fabrics additionally takes place in the evaluation device (14) on basis of the measured yarn data.

5

14. Apparatus according to one of Claims 1 to 13, characterized in that the apparatus additionally comprises means for carrying out a statistical evaluation of the measured values.

10

15. Apparatus according to one of Claims 1 to 14, characterized in that the structure input device (13) is envisaged for altering or creating flat fabric structures.

15

16. Apparatus according to one of the preceding claims, characterized in that the structure input (13) and evaluation and control (14) take place in a computer.

20

17. Method of optimizing actual fabrics on the basis of measured yarn data with an apparatus (11) according to one of the preceding claims, characterized in that, after measurement of the yarn diameter and definition 25 of the freely definable structures, the actual fabric is computed and represented on the basis of the measured yarn diameters and the defined structure and the fact that the defined structure of the fabric can be changed makes it possible to adapt and optimize the 30 actual fabric to the measured individual yarn diameters.

Applicant: Dieter Zweigle, Ferdinand-Lassalle-Str. 54,
72770 Reutlingen

Apparatus (11) for optimizing actual woven fabrics on
the basis of measured yarn data, having at least one
measuring device (12) for measuring the yarn diameter,
having a structure input device (13) for inputting and
changing freely definable structures, having a device
(14) for controlling the measuring device (12) and for
evaluation and a display device (16), the actual fabric
being computed and represented on the basis of the
measured yarn diameters and the freely definable
structure and the fact that the defined structure of
the fabric can be changed making it possible to adapt
and optimize the actual fabric to the measured
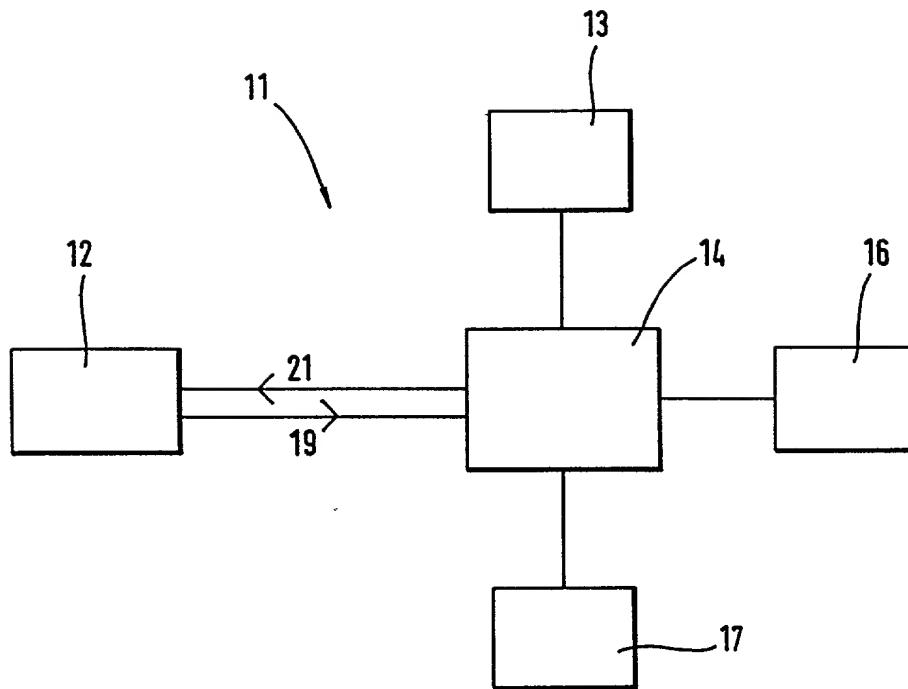individual yarn diameters. (In this respect see Figure
1.)

Fig.1

Docket No.
(K) 53 885

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled
Device for Optimizing Fabrics Based on Measured Thread Data and Optimization Method

the specification of which

(check one)

❑ is attached hereto.

☒ was filed on April 29, 1998 _____ as United States Application No. or PCT International
    Application Number PCT/EP98/02529 _____
    and was amended on _____
                                     (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)   Priority Not Claimed

197 18 562.2	Germany	02/05/1997	❑
(Number)	(Country)	(Day/Month/Year Filed)	
			❑
(Number)	(Country)	(Day/Month/Year Filed)	
			❑
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112. I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

PCT/EP98/02529	April 29, 1998	pending
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

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Citizenship	
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